COMMUNITY PLANNING & DEVELOPMENT

Clean Air Act

Compliance

Learning Objectives

- Understand the basic history and structure of the Clean Air Act
- Recognize the types of projects that do and do not trigger CAA compliance, and when to hire a consultant
- Determine what locations are subject to CAA regulations, and what emissions levels are permitted
- Investigate mitigation options

Air Quality Compliance

Takeaways

- Federal law, implemented by the states
- Very rare that compliance measures are required for HUD-assisted projects
- Very technical- best to use engineers/consultants

Clean Air Act history

Clean Air Act Structure

- Regulations written by federal EPA, but **administered through state agencies**
- Each state has its own unique plan for meeting CAA goals, known as a **State Implementation Plan (SIP)**
- Become familiar with your area's SIP: locations, emissions levels and mitigation

4 Steps to CAA Compliance

1. Determine if the project review rises to Environmental Assessment level
2. Determine if the project is located in a non-attainment area for any of six pollutants
3. Determine if the project exceeds allowable emissions levels
4. Determine what mitigation options are available

Note: Most projects will not have to proceed past Step 3

Step #1

HUD-assisted projects that are exempt or categorically excluded (CATEX) will virtually never produce enough air pollution to trigger CAA mitigation measures…

…only projects that require an Environmental Assessment continue to Step #2.

Step #2

Determine if your project is located in an area that has excessive levels of these 'criteria pollutants':

- Carbon monoxide
- Lead
- Sulfur oxides
- Nitrous oxides
- Ground-level ozone
- Particulate matter

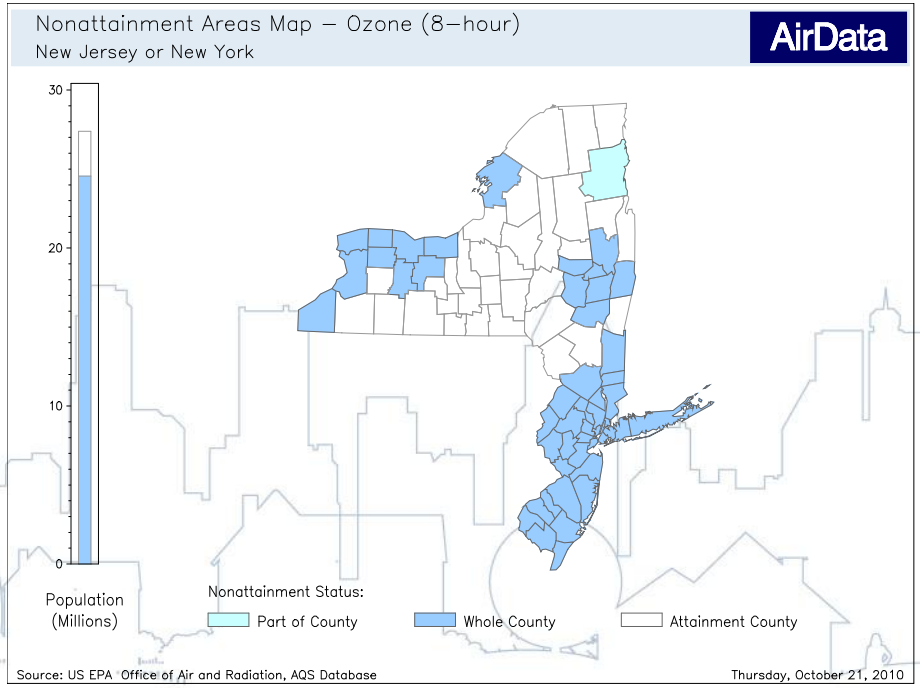
Attainment vs non-attainment

- Attainment refers to “clean air sites” – below national level of pollutants
- Non-attainment refers to “dirty air sites” – above national level of pollutants

HUD Clean Air Act Compliance

Check the county or air-quality district of your project for each of these pollutants at

http://www.epa.gov/oaqps001/greenbk/index.html



Step 3: Estimate emissions

- Become familiar with your local SIP- formal estimates may not be necessary
- If necessary - it is highly technical and should be completed by a qualified professional
- Compare estimated emissions to allowable levels in your area's SIP

New York State De minimis emission limits.	
Air contaminant	*De minimis emission limit (tons per year)*
Carbon monoxide	100
Nitrogen oxides	40
Sulfur dioxide	40
Particulates	25
Volatile organic compounds (for ozone nonattainment areas)	40
Lead	.6
Asbestos	0.007
Beryllium	0.0004
Mercury	0.1
Vinyl chloride	1
Fluorides	3
Sulfuric acid mist	7
Hydrogen sulfide	10
Total reduced sulfur	10
Reduced sulfur compounds	10

http://www1.dec.state.ny.us/regs/4210.html#13984

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Table 3-1
Criteria Air Pollutants and Precursors and GHG Screening Level Sizes

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction Criteria Pollutant Screening Size
Single-family	325 du (NOX)	56 du	114 du (ROG)
Apartment, low-rise	451 du (ROG)	78 du	240 du (ROG)
Apartment, mid-rise	494 du (ROG)	87 du	240 du (ROG)
Apartment, high-rise	510 du (ROG)	91 du	249 du (ROG)
Condo/townhouse, general	451 du (ROG)	78 du	240 du (ROG)
Condo/townhouse, high-rise	511 du (ROG)	92 du	252 du (ROG)
Mobile home park	450 du (ROG)	82 du	114 du (ROG)
Retirement community	487 du (ROG)	94 du	114 du (ROG)
Congregate care facility	657 du (ROG)	143 du	240 du (ROG)
Day-care center	53 ksf (NOX)	11 ksf	277 ksf (ROG)
Elementary school	271 ksf (NOX)	44 ksf	277 ksf (ROG)
Elementary school	2747 students (ROG)	-	3904 students (ROG)
Junior high school	285 ksf (NOX)	-	277 ksf (ROG)
Junior high school	2460 students (NOX)	46 ksf	3261 students (ROG)
High school	311 ksf (NOX)	49 ksf	277 ksf (ROG)
High school	2390 students (NOX)	-	3012 students (ROG)

Table 3-1
Criteria Air Pollutants and Precursors and GHG Screening Level Sizes

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction Criteria Pollutant Screening Size
Office park	323 ksf (NOX)	50 ksf	277 ksf (ROG)
Government office building	61 ksf (NOX)	12 ksf	277 ksf (ROG)
Government (civic center)	149 ksf (NOX)	27 ksf	277 ksf (ROG)
Pharmacy/drugstore w/ drive through	49 ksf (NOX)	10 ksf	277 ksf (ROG)
Pharmacy/drugstore w/o drive through	48 ksf (NOX)	10 ksf	277 ksf (ROG)
Medical office building	117 ksf (NOX)	22 ksf	277 ksf (ROG)
Hospital	226 ksf (NOX)	39 ksf	277 ksf (ROG)
Hospital	334 beds (NOX)	84 ksf	337 beds (ROG)
Warehouse	864 ksf (NOX)	64 ksf	259 ksf (NOX)
General light industry	541 ksf (NOX)	121 ksf	259 ksf (NOX)
General light industry	72 acres (NOX)	-	11 acres (NOX)
General light industry	1249 employees (NOX)	-	540 employees (NOX)
General heavy industry	1899 ksf (ROG)	-	259 ksf (NOX)
General heavy industry	281 acres (ROG)	-	11 acres (NOX)
Industrial park	553 ksf (NOX)	65 ksf	259 ksf (NOX)
Industrial park	61 acres (NOX)	-	11 acres (NOX)
Industrial park	1154 employees (NOX)		577 employees (NOX)

Documentation required in the Environmental Review Record

- ❑ The proposed project is not a facility that contributes to air pollution; or
- ❑ Sites are located within NAAQS “attainment” areas; or

all activities in “non-attainment” areas conform with SIP; or

- ❑ All activities within “non-attainment” areas have been designed/modified to conform with SIP requirements

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

COMMUNITY PLANNING AND DEVELOPMENT

Step 4: Mitigation

Mitigation comes in different forms:

- Emissions reduction technology
  - Specified technology
  - Specified emissions levels
- Emissions offsets
  - Emissions credit trading
  - Direct shutdown of existing sources
- State construction and operating permits almost always required

Site information the grantee shall furnish HUD

- A letter from the State on the non-attainment area project activities and
- Proper assurance on the project's asbestos containment materials handling

Case Study #1: The Miraflores Concept Plan

- Project objective is to provide 336 units of a range of housing types on an urban infill site.
  - Provide 110 rental units for seniors
  - Provide 222 market-rate attached units, in a combination of townhouses and single story residences, and 4 single-family homes

Picture of Miraflores site

Case Study #1: The Miraflores Concept Plan

- Physical Setting/Existing conditions.
  - Irregular, L-shaped 14 acre property comprised of three major parcels
  - There is significant overgrowth and debris on the site. Traffic from I-80 can be heard through the property.
  - The project site is bounded on the north by the BART tracks and a roadbed berm of the old Atchinson, Topeka and Santa Fe Railroad Line.

Case Study #1: The Miraflores Concept Plan

- Air compliance issues:
  - EPA designated the entire Bay area as non-attainment for the 24 hr PM 2.5 NAAQS.
  - Toxic air contaminants (TAC) found in low concentrations, even near the highway in lieu of diesel particulates and benzene.
  - No major stationary sources of TAC but in lieu of its proximity to the highway, diesel particulate is generated from the truck trips.

Case Study #1: The Miraflores Concept Plan

Air compliance discussion

- Originally, the proposed building was setback at 20 feet from the highway, the distance from the roadway and truck traffic densities are key factors affecting the strength of the association of adverse health effects.

Case Study #1: The Miraflores Concept Plan

Mitigation discussion

- Project sponsor has designed a 100% outdoor air ventilation system with supply fans located in the roof.
- Housing will be setback (as mitigation) approximately 220 feet from Interstate 80 to help mitigate adverse air quality and noise impacts from the freeway.

Case Study #2: 6th and Oak Apartments, Oakland

Physical Setting/Existing conditions

- Project site located at the northern corner of the intersection of 6th and Oak streets in Oakland. Interstate 880 passes by the project site parallel to and on the opposite side of 6th street.
- Air quality requires that qualified air quality consultants prepare a Health Risk Assessment to develop measures to achieve acceptable interior air quality


CHINATOWN
7TH ST
6TH ST
OAK ST
NB OAK OFFRP ST
6TH ST
FALLON ST
NB I880
SB I880
880
614
125
121
119
631
627
619
0
116
632
628
624
77
610
69
65
633
625
621
617
50
76
70
68
64
709
705
703
510

Case Study #2: 6th and Oak Apartments, Oakland

Air compliance issues:

- Potential exposure from emissions from the adjacent freeway, exposing residents to vehicle emissions, including toxic air contaminants (diesel emissions).

Case Study #2: 6th and Oak Apartments, Oakland

Mitigation discussion:

- No sensitive receptors near entry or exits of the proposed project site
- No sensitive receptor in the same building with hazardous materials.
- Install, operate and maintain and HVAC system, MERV 13.
- Maintain positive pressure within the building

Case Study #2: 6th and Oak Apartments, Oakland

Mitigation discussion:

- Maintain one air exchange per hour of fresh outside air
- Maintain four air exchanges per hour of re-circulated air.
- If building is not positively pressurized, maintain 0.25 air exchanges per hour.
- Maintain, repair or replace an HV system and the filter.

Questions?

Points of Contact

Jacob Levine
Environmental Review Specialist
U.S. Department of Housing and Urban Development
Office (212) 542-7438

Nelson A. Rivera, R.E.M.
Environmental Engineer
U.S. Department of Housing and Urban Development
Voice: 202.402.4455